

PATENT APPLICATION

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of

Jean-Marc ANDREOLI et al.

Group Art Unit: 2176

Application No.: 09/421,846

Examiner: W. Bashore

Filed: October 20, 1999

Docket No.: 109619

For: DOCUMENT CONSTRAINT DESCRIPTORS OBTAINED FROM USER SIGNALS
INDICATING ATTRIBUTE-VALUE RELATIONS

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REQUEST FOR RECONSIDERATION

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Technology Center 2100
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Technology Center 2100

Sir:

In reply to the July 29, 2003 Office Action, reconsideration of the rejection is respectfully requested in light of the following remarks.

Claims 1-16 are pending.

Initially, Applicants acknowledge with appreciation the courtesies extended to Applicants' undersigned representative by Examiner Bashore during the personal interview conducted on September 24, 2003. The remarks, below, constitute Applicants' Summary of the Interview in the sense that they reflect arguments made on behalf of Applicants during the interview.

In order to establish a basis for evaluating the claims, and as pointed out during the interview, Applicants' original disclosure defines a number of the terms which are positively recited in the claims.

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Applicants define the claim terminology "attribute-value relation" on page 12 as "an association between an attribute [which is a characteristic that may have a value] and a set of values the attribute can have."

Applicants recite, in claim 1, for example, obtaining "logical relations equivalent to the attribute value relations." In this regard, Applicants define a "logical relation" on page 12 as "a relation between elements, where the relation can be evaluated as true or false." Applicants also disclose that "[S]orts and features are examples of logical relations." A "sort" is defined, on page 19 of the Application, as "a unary relation, expressing a property of a single entity." On page 24, a "sort" is said to be "disjoint: this means that no entity can be of two distinct sorts." On page 20, Applicants disclose that a "feature is a binary relation expressing a property linking two entities."

Applicants also disclose, on page 20, that built-in relations, such as equality and inequality are referred to in this application as "built-in predicates" or "built-in constraints."

Applicants, on page 12, state that a logical relation is "equivalent" to a set of attribute-value relations if the logical relations are evaluated as true only if the attribute-value relations are met and are evaluated as false only if the attribute-relations are not met.

Applicants disclose, on page 12, that a "document constraint descriptor" is a constraint descriptor (an item of data that defines a constraint) defining a constraint that is applicable to documents.

Applicants also disclose, on page 13, that a set of constraints is equivalent to a set of logical relations only if the constraints are satisfied when the logical relations are evaluated as true, and the constraints are only not satisfied when the logical relations are evaluated as false.

To the extent that these terms are found in the claims, their definitions should be considered when evaluating the claims.

The Office Action rejects claims 1-5, 8 and 13-16 under 35 USC 103(a) as unpatentable over U.S. Patent 5,794,233 to Rubinstein (hereinafter, "Rubinstein '233") in view of U.S. Patent 5,693,938 to Wilson et al. (hereinafter, "Wilson"). This rejection is respectfully traversed.

In rejecting claims under 35 USC 103, it is incumbent on the Examiner to establish a factual basis to support the legal conclusion of obviousness. See, In re Fine, 837 F.2d 1071, 1073, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988). In so doing, the Examiner is expected to make the factual determinations set forth in Graham v. John Deere Co., 383 U.S. 1, 17, 148 USPQ 459, 467 (1966), and to provide a reason why one of ordinary skill in the pertinent art would have been led to modify the prior art or to combine prior art references to arrive at the claimed invention. Such reason must stem from some teaching, suggestion or implication in the prior art as a whole or knowledge generally available to one having ordinary skill in the art. Uniroyal Inc. v. F-Wiley Corp., 837 F.2d 1044, 1051, 5 USPQ2d 1434, 1438 (Fed. Cir. 1988), cert. denied, 488 U.S. 825 (1988); Ashland Oil, Inc. v. Delta Resins & Refractories, Inc., 776 F.2d 281, 293, 227 USPQ 657, 664 (Fed. Cir. 1985), cert. denied, 475 U.S. 1017 (1986); ACS Hospital Systems, Inc. v. Montefiore Hospital, 732 F.2d 1572, 1577, 221 USPQ 929, 933 (Fed. Cir. 1984). These showings by the Examiner are an essential part of complying with the burden of presenting a prima facie case of obviousness. Note, In re Oetiker, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992). The mere fact that the prior art may be modified in the manner suggested by the examiner does not make the modification obvious unless the prior art suggested the desirability of the modification. In re Fritch, 972 F.2d 1260, 1266, 23 USPQ2d 1780, 1783-84 (Fed. Cir. 1992). To establish prima facie obviousness of a claimed invention, all the claim limitations must be suggested or taught by the prior art. In re Royka, 490 F.2d 981, 180 USPQ 580 (CCPA 1970). All words in a claim must be considered in judging the patentability of that claim against the prior art.

In re Wilson, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970). It is well settled that a rejection based on 35 USC 103 must rest on a factual basis, which the Patent and Trademark Office has the initial duty of supplying. In re GPAC, Inc., 57 F.3d 1573, 1582, 35 USPQ2d 1116, 1123 (Fed. Cir. 1995). A showing of a suggestion, teaching, or motivation to combine the prior art references is an “essential evidentiary component of an obviousness holding.” C.R. Bard, Inc. v. M3 Sys. Inc., 157 F.3d 1340, 1352, 48 USPQ2d 1225, 1232 (Fed. Cir. 1998). This evidence may flow from the prior art references themselves, the knowledge of one of ordinary skill in the art, or, in some cases, from the nature of the problem to be solved. See Pro-Mold & Tool Co. v. Great Lakes Plastics, Inc., 75 F.3d 1568, 1573, 37 USPQ2d 1626, 1630 (Fed. Cir. 1996). However, the suggestion more often comes from the teachings of the pertinent references. See In re Rouffet, 149 F.3d 1350, 1359, 47 USPQ2d 1453, 1459 (Fed. Cir. 1998). This showing must be clear and particular, and broad conclusory statements about the teaching of multiple references, standing alone, are not “evidence.” See In re Dembiczak, 175 F.3d 994 at 1000, 50 USPQ2d 1614 at 1617. However, the suggestion to combine need not be express and “may come from the prior art, as filtered through the knowledge of one skilled in the art.” Motorola, Inc. v. Interdigital Tech. Corp., 121 F.3d 1461, 1472, 43 USPQ2d 1481, 1489 (Fed. Cir. 1997).

It is impermissible for an Examiner to engage in hindsight reconstruction of the claimed invention using appellant's structure as a template and selecting elements from references to fill the page. The references themselves must provide some teaching whereby the appellant's combination would have been obvious. In re Gorman, 911 F.2d 982, 986, 18 USPQ2d 1885, 1888 (Fed. Cir. 1991). That is, something in the prior art as a whole must suggest the desirability, and thus obviousness, of making the combination. See, In re Beattie, 974 F.2d 1309, 1312, 24 USPQ2d 1040, 1042 (Fed. Cir. 1992); Lindemann Maschinenfabrik

GMBH v. American Hoist and Derrick Co., 730 F.2d 1452, 1462, 221 USPQ 481, 488 (Fed. Cir. 1984).

Moreover, speculation cannot properly serve as the basis for a rejection under 35 USC §103, In re Steele, 305 F.2d 859, 862, 134 USPQ 292, 295 (CCPA 1962), In re Wilson, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970), and Ex parte Lemoine, 46 USPQ2d 1420 at 1430 (Bd. Pat. App. & Int. 1994).

Applicants respectfully submit that this rejection is based solely on speculation, which cannot properly serve as the basis for a rejection.

The Office Action speculates that "obtaining document constraint descriptors based on user signals" is disclosed by the Abstract, but no indication is given as to which of the more than 100 words in that abstract constitutes that disclosure. Reference is also made to Fig. 2, item 250, which is a query pane, which "enables the user to type a query expression or edit a user expression previously constructed." See col. 4, lines 49-54.

Rubinstein '233 never mentions "document constraint descriptors" and the Office Action fails to indicate how Rubinstein '233 obtains them or that the way they are obtained is by generating document constraint descriptors. The abstract only indicates that Rubinstein automatically identifies for a user keyword phrases in a plurality of documents. There is no indication in Rubinstein '233 that document constraint descriptors are generated in any of the disclosed identifying keyword phrases in a plurality of documents or in generating an abstract for the user.

The Office Action then speculates that Rubinstein '233 receives user signals indicating a set of attribute value-relations that can apply to documents. There is no indication in Rubinstein '233 that the user enters attribute values. Rubinstein '233, for example, never discloses any attribute value relationships, and the Office Action never indicates where any such attribute value relationship exists in Rubinstein '233. The Office

Action mentions Fig. 2, items 206, 208 and 250 in this regard, for example. However, these items merely provide space for attributes, e.g., keywords. No disclosure of attribute values or a relationship between attributes and their values is disclosed in Rubinstein '233.

The Office Action also mentions col. 3, lines 34-44, which discusses keywords and relevance codes (which are generated by linguistic analyses). This is not evidence of receiving user signals indicating a set of attribute value-relations that can apply to documents. Even if the linguistic analyses generated relevance codes were somehow considered to be attribute value relationships, which they are not, they are not user generated, as recited in claims 1 and 13. The Office Action also mentions col. 4, lines 1-10, which lets a user generate query expressions in which one or more keyword phrases appear as operands (col. 4, lines 1-22). However, how this constitutes attribute-value relationships is not clear, nor is it explained in the Office Action.

The Office Action then discusses "obtaining logical relations via inclusion of keywords into logic panes to produce logically joined expressions" as being disclosed in Fig. 2, items 242, 246 and col. 4, lines 17-30, and asks Applicants to "compare with claim 1 'using . . . to obtain logical relations equivalent to the attribute-value relations.'"

Applicants respectfully submit that items 242 and 246, which provide for document keywords, and the ANDing these search terms together (col. 4, lines 17-30) in no way is obtaining logical relations equivalent to attribute-value relations input by a user. As noted above, a user does not enter attribute-value relationships in Rubinstein '233. Even if such relationships were entered, which they are not, the relationships obtained by Rubinstein '233 are merely ANDing search terms together and have nothing to do with obtaining logical relations equivalent to attribute-value relations input by a user. These ANDed terms are merely Boolean logical combination of keywords. Reference is made, in this regard, to the statement on page 11 of Applicants' disclosure that a constraint includes logical combinations

of constraints. All that Rubinstein '233 is doing in this regard is merely expanding the attributes into logical combinations of attributes. Rubinstein is not obtaining logical relations equivalent to attribute-value relations input by a user.

Then, the Office Action alleges that Rubinstein '233 uses the logically joined expressions to obtain a displayed constraint descriptor set as applied for document searching, citing Fig. 2, item 250 and col. 4, lines 49-56. However, pane 250 only provides for user input terms and does not obtain or display a document constraint descriptor defining a set of one or more constraints equivalent to the logical relations. In col. 4, lines 49-56, Rubinstein merely discloses that pane 250 can be used to type in, or edit a query expression. This has nothing to do with obtaining or displaying a document constraint descriptor defining a set of one or more constraints equivalent to the logical relations.

The Office Action admits that Rubinstein '233 does not specifically teach a "sort." To fill that admitted shortcoming of Rubinstein '233, the Office Action turns to Wilson, which discloses an automatic, context-organizing query interface. The Office Action asserts that Wilson teaches selection of arguments, operations and relations, and a logical operation may be sorting or other operation, citing col. 3, lines 45-55.

Applicants respectfully note that claims 1 and 13 use the term "sort," which is defined in the paragraph bridging pages 19 and 20 of the specification as a unary relation expressing a property of a single entity, in the context of using the user input signals to obtain, without user intervention, logical relations, which comprise at least one of a sort and a feature, which are equivalent to the attribute value relations. The Office Action does not demonstrate that either Rubinstein '233 or Wilson disclose a sort as recited in claims 1 and 13.

Turning to the "Response to Argument" portion of the Office Action, the Office Action interprets "sort" as disclosed by Wilson. Applicants respectfully submit that Wilson never defines a "sort." Wilson uses the term "sort" once and the term "sorting" once in his

specification, but never defines those terms. If "sort" in Wilson has a different meaning that does "sort" in Applicants' disclosure, then that is prima facie evidence that the meaning of sort needs to be clarified so that one of ordinary skill in the art will know which definition is being used by Applicants. Applicants do define "sort", as pointed out above, as an aid to one of ordinary skill in the art.

Moreover, the alleged motivation to combine Rubinstein '233 and Wilson to incorporate sorts for convenient arrangement of related/ranged results is a broad, general statement of the type which does not provide evidence of the desirability of making the proposed modification. A showing of motivation must be clear and particular, and broad conclusory statements about the teaching of multiple references, standing alone, are not "evidence." See In re Dembiczak, 175 F.3d 994 at 1000, 50 USPQ2d 1614 at 1617.

Moreover, the Board of Patent Appeals and Interferences has indicated that the mere fact that teachings found in the prior art could be combined as proposed by an Examiner does not make the combination obvious "absent some teaching, suggestion, or incentive supporting the combination." Ex parte Metcalf, 67 USPQ2d 1633 (BPAI 2003) (nonprecedential).

Applicants respectfully submit that the Office Action has failed to provide a teaching, suggestion, or incentive supporting the asserted combination of Rubinstein '233 and Wilson other than the hindsight reason "to release the burden of modification from the user," whereas the applied references fail to indicate that such a burden exists or needs to be relieved. Thus, this reason is a broad, general statement of the type which does not provide evidence of the desirability of making the proposed modification.

Accordingly, the Office Action fails to make out a prima facie case of obviousness of the invention as recited in claims 1 and 13.

The Office Action also applies Wilson to modify Rubinstein '233 to automatically provide whatever Rubinstein '233 provides, citing col. 7, lines 12-21 and col. 12, lines 34-48

of Wilson, which allegedly disclose automatically making necessary changes and divisions in Boolean groupings within relations, resulting in proper constraints. Actually, Wilson lets a user select the Boolean operators to use in the search query (col. 7, lines 12-21) or if the user selects a Boolean in step 74 of Fig. 2 that is different than previous Booleans within the same group, the processor may create a new group automatically or let the user create the new group (col. 12, lines 34-48).

Applicants do not understand what automating a particular decision step in a Boolean operation has to do with the overall process of using the user signals, without user intervention, to obtain logical relations equivalent to the attribute value relations, and using the logical relations to obtain, without requiring user intervention, a document constraint descriptor defining a set of one or more constraints equivalent to the logical relations. Nor has the Office Action provided an explanation. In both Rubinstein '233 and in Wilson, the user input includes logical Boolean operations. The proposed combination of references simply does not disclose the inventions recited in claims 1 and 13.

Rubinstein '233 simply does not obtain document constraint descriptors based on user signals. Rubinstein '233 generates abstracts of documents on its own and presents them to a user. The user then creates keyword(s), and Rubinstein '233 then identifies a document based on the keyword(s).

Moreover, the user query only used logical operators such as "AND" and "BUT NOT" only in the sense that they link query terms so as to expand the query. Rubinstein '233 does not obtain logical relations equivalent to attribute-value relations input by a user, as claimed. An expansion of a query using logical operators merely expands the query and in no way obtains a logical relation that is equivalent to attribute-value relations input by a user. At best, what is obtained in Rubinstein is an expanded query that constitutes the user

expressed attribute value relation. Rubinstein does not go any further to, for example, obtain a logical relation that is equivalent to the user expressed attribute value relation, as claimed.

Applicants' invention recited in claims 1 and 13 differs significantly from Rubinstein '233 taken alone, or in combination with Wilson. As pointed out on pages 4 and 5 of this Application, a typical user has difficulty formulating sorts and features that will produce a desired constraint. These constraint production difficulties are alleviated by the claimed invention which provides techniques that obtain document constraint descriptors from documents from user signals. Instead of requiring a user to provide a set of sorts and features, the claimed invention allows a user to simply provide attribute-value relations, and the invention recited in claims 1 and 13 converts the attribute-value relations to logical relations such as sorts and features from which a constraint descriptor can be obtained.

Neither Rubinstein '233 nor Wilson discloses or suggests the claimed features.

With respect to claims 15 and 16, neither Rubinstein '233 nor Wilson disclose a document constraint descriptor or using the document constraint descriptor to solve the set of one or more constraints to obtain a solution. The search query in col. 5, lines 54-61 of Rubinstein '233 simply does not constitute a document constraint descriptor or using the document constraint descriptor to solve the set of one or more constraints to obtain a solution, at least for the reasons stated above regarding the traversal of the rejection of claim 13.

Claims 2-5, 8 and 14-16 are patentable over Rubinstein '233 and Wilson at least for the reasons presented above regarding the patentability of claims 1 and 13.

With respect to the assertion in the Office Action, on page 11, that ". . . Wilson is used to teach a query interface encompassing Boolean operators for relating logical operations . . . resulting in proper constraints," Applicants respectfully submit that this statement only reinforces Applicants' argument that the applied art merely expands query terms resulting in

expanded constraints. This is a far cry from obtaining logical relations equivalent to attribute-value relations input by a user, as recited in the claims.

The Office Action rejects claims 6 and 7 under 35 USC 103(a) over Rubinstein '233 in view of U.S. patent 5,693,938 to Wilson as applied against claim 1, and further in view of U.S. Patent 5,404,294 to Karnik. This rejection is respectfully traversed.

Karnik is not directed to identifying one of a plurality of documents, as are Rubinstein '233 or Wilson. Instead, Karnik is only interested in entering information or and/or extracting information from preselected areas in one or more documents.

The Office Action is really stretching this reference combination in the sense that it completely fails to establish a motivation to combine these references. The alleged reason to combine these three references is to provide Rubinstein '233 the capability of querying data from inputted IRS forms for statistical purposes. However, in order to modify Rubinstein '233, one would have to disregard Rubinstein '233's main function of identifying one of a plurality of documents and identifying the document by generating an abstract by linguistically analyzing the plurality of documents. One of ordinary skill in the art would not have been motivated to fundamentally alter Rubinstein '233 in this manner. Moreover, Rubinstein '233 is not restricted to querying only certain portions of a form, and there would be no motivation to one of ordinary skill in the art to so restrict Rubinstein '233.

This rejection is a prime example on improper hindsight reconstruction of Applicants' invention based solely on Applicants' disclosure.

With respect to the assertion on page 11, that Karnik provides Rubinstein '233 the capability of querying data from a form for statistical purposes, Applicants respectfully submit that Rubinstein '233 has no disclosure or suggestion of a desire to query data from a form for statistical purposes, nor does Rubinstein '233 have any disclosed need to retrieve

information from a computer database and place that data at precise positions on a pre-printed form.

Reference is made, in this regard to the Metcalf decision, cited above, which aptly points out that the mere fact that teachings found in the prior art could be combined as proposed by an Examiner does not make the combination obvious "absent some teaching, suggestion, or incentive supporting the combination."

Accordingly, the Office Action fails to make out a prima facie case of obviousness of the subject matter recited in claims 6 and 7.

The Office Action rejects claims 9-12 under 35 USC 103(a) over Rubinstein '233 in view of U.S. Patent 5,693,938 to Wilson as applied against claim 1, and further in view of U.S. Patent 5,721,897 to Rubinstein (hereinafter, "Rubinstein '897"). This rejection is respectfully traversed.

Claim 9 further recites solving the set of one or more constraints to obtain a solution and using the solution to obtain one or more document references. The Office Action does not even address this positively recited feature, thereby denying Applicants fundamental procedural and substantive due process under the Administrative procedures Act. For this reason alone, the Office Action fails to make out a prima facie case of obviousness of the subject matter recited in claim 9. Moreover, the applied references do not teach this feature at least for the reasons stated above regarding the traversal of the rejection of claim 1.

The Office Action only addresses the network feature of this claim. However, the network feature is not the only positively recited feature of claim 9.

Claims 10-12 recite the features of claim 1 and are patentable at least for the reasons stated above regarding the patentability of claim 1 with respect to Rubinstein '233 and Wilson. It is noted that Rubinstein '897 is only applied to teach creating logical relations

using the Internet, and not to remedy any of the aforementioned deficiencies in Rubinstein '233 or Wilson.

For the foregoing reasons, Applicants respectfully submit that the objections and rejections of record regarding claims 1-16 are improper and should be withdrawn.

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of claims 1-16 are earnestly solicited.

Should the Examiner believe that anything further is needed to place this application in better for allowance, the examiner is invited to contact Applicants' undersigned representative at the telephone number listed below.

Respectfully submitted,



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Date: October 10, 2003

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